

Appl. No. 10/658,169  
Arndt. dated April 13, 2005  
Reply to Office Action of December 14, 2004

## REMARKS

Claims 1-6 are pending in the present Application, while claims 1-6 were rejected. Claims 1-2 and 5-6 have been amended, and new claims 7-11 have been added. Specification has been amended. Support for the amendment can be found in the entire specification. Page 4, lines 12-15 or lines 21-22 or page 7, lines 20-30 of the specification, for example, show the amended features. No new matter has been added by the amendments. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

### *Specification:*

The specification was objected to for informalities on page 7, lines 33-34. The specification has been amended to overcome the objection.

### *Claim Rejections Under 35 U.S.C. § 102*

#### Claims 1-6

Claims 1-6 stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by Blackburn et al., US 6,264,825 (hereinafter "Blackburn") for the reasons stated on pages 2-3 of the office action. Applicants respectfully traverse the rejection.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Blackburn, however, fails to disclose or teach each and every element as recited in claim 1.

Claim 1 is a method for detecting a polymerase chain reaction (PCR) product, comprising: providing at least a pair of electrodes in a PCR solution-containing vessel; performing PCR; producing an electric field between the electrodes; and measuring a change in a dielectric property in the PCR solution, wherein the PCR is performed in the absence of an ionically-labelled probe.

On the contrary, Blackburn fails to disclose or teach PCT performance in the absence of an ionically-labelled probe. The Examiner, however, has stated on page 3 of the office action that Blackburn never discloses anything about using an ionically-labeled primer and even talks about non-ionic nucleic acid (col. 9, lines 7-11). The paragraphs from Col. 8, line 57 to Col. 9.

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line 11 of Blackburn, for example, disclose that preferred nucleic acid analogs used in the method of Blackburn are peptide nucleic acids (PNA) and these backbones are substantially non-ionic under neutral conditions. Therefore, the non-ionic PNA backbone, in Col. 9, lines 7-11 of the Blackburn, indicates the PNA itself, rather than the PCT performance in the absence of the ionically-labeled primer. Instead, the abstract of Blackburn discloses that the detection proceeds through the use of an electron transfer moiety (ETM) that is associated with the target analyte. That is, the method of Blackburn is performed in the presence of ETM.

Accordingly, Blackburn does not anticipate or render claim 1 obvious, because it fails to disclose or teach the element "the PCR is performed in the absence of an ionically-labelled probe", as recited in claim 1. Claims 2-6 and new claims 7-11 depend from claim 1, thus are believed to be allowable due to their dependency on claim 1.

Claims 1-4

Claims 1-4 stand rejected under 35 U.S.C. § 102(e), as allegedly anticipated by Miles et al., Pub 2002/0072054 (hereinafter "Miles") for the reasons stated on page 4 of the office action. Applicants respectfully traverse the rejection.

The Examiner has stated on page 4 of the office action that page 1, paragraph 9 of Miles discusses using an ionically-labeled probe but lacks specifically stating the use of any primer. Page 1, paragraph 9 of Miles clearly discloses that another object of the invention is to detect the end-point for PCT DNA amplification using an ionically labeled probe, which is distinguished from the claimed invention in which the PCR is performed in the absence of an ionically-labelled probe.

Therefore, Miles does not anticipate or render claim 1 obvious because it fails to disclose or teach the element "the PCR is performed in the absence of an ionically-labelled probe", as recited in claim 1. Claims 2-4 and new claims 7-11 depend from claim 1, thus are believed to be allowable due to their dependency on claim 1.

Claim Rejections Under 35 U.S.C. § 103

Claims 5-6 stand rejected under 35 U.S.C. § 103(a), as being allegedly unpatentable over Miles in view of Blackburn for the reasons stated on page 5 of the office action. Applicants respectfully traverse the rejection.

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For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; and that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

As stated above, neither Miles nor Blackburn teaches or suggests the element "the PCR is performed in the absence of an ionically-labelled probe", as recited in claim 1, from which Claims 5-6 depend. Therefore, the combination of Miles and Blackburn does not render claim 1 obvious because it fails to teach or suggest all elements of claim 1. Accordingly, claims 5-6 and new claims 7-11 are believed to be allowable due to their dependency on claim 1.

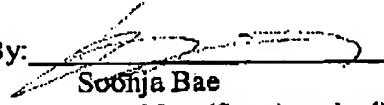
**Conclusion**

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicant. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Respectfully submitted,

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